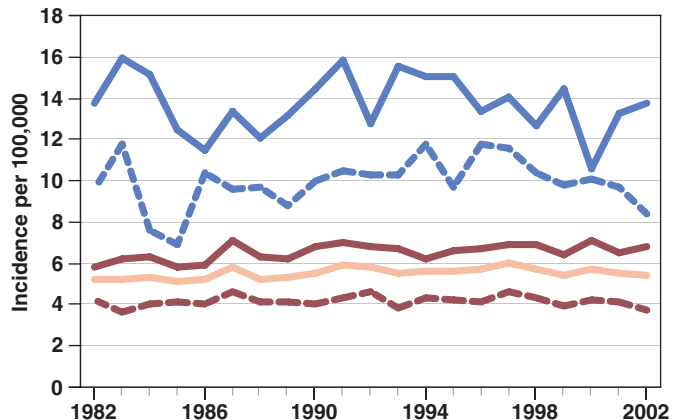


## Incidence and Mortality Rate Trends

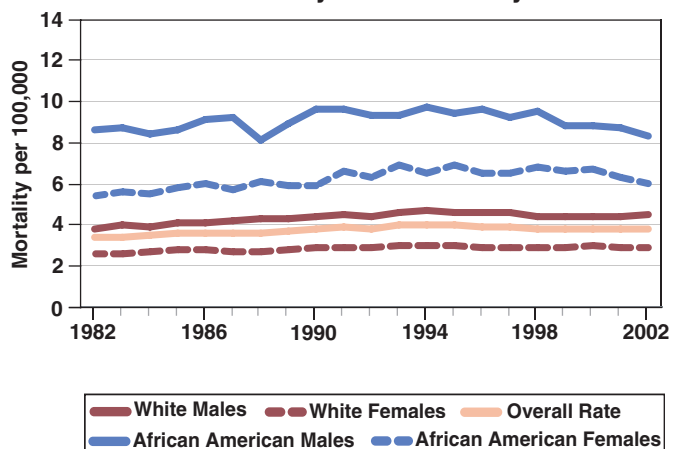
Myeloma, also known as multiple myeloma or plasma cell myeloma, is the second most common blood cancer in the United States and comprises approximately 1 percent of all cancers. Unfortunately, there has been little change in the overall incidence rate of myeloma, and the mortality rate has increased over the past three decades. The incidence rate is higher in men than women. Myeloma is more common among the elderly, and African Americans have approximately double the incidence and mortality rates of Whites.

Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at: <http://seer.cancer.gov/>

U.S. Myeloma Incidence



U.S. Myeloma Mortality

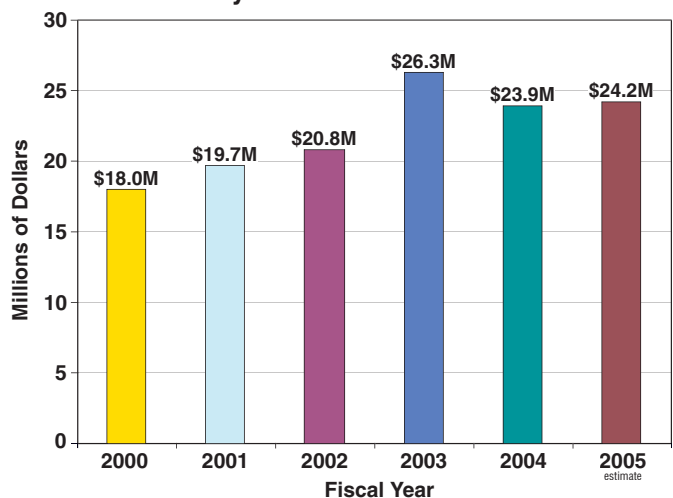


## Trends in NCI Funding for Myeloma Research

The National Cancer Institute's (NCI's) investment in myeloma research has increased from \$18.0 million in fiscal year 2000 to an estimated \$24.2 million in fiscal year 2005.

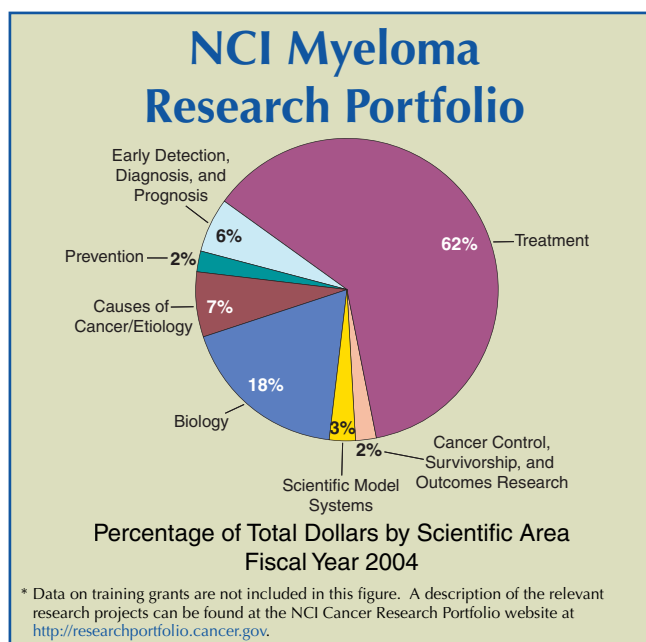
Source: NCI Financial Management Branch  
<http://www3.cancer.gov/admin/fmb>

NCI Myeloma Research Investment



## Examples of NCI Research Initiatives Relevant to Myeloma

- The myeloma-specific **Specialized Program of Research Excellence (SPORE)** is moving results from the laboratory to the clinical setting. <http://spores.nci.nih.gov/current/myeloma/myeloma.html>
- The **Academic Public-Private Partnership Program (AP4)** will support the discovery of new therapeutic agents for orphan cancers, including hematologic cancers, and their rapid translation to human trials. <http://dtp.nci.nih.gov/docs/ap4/ap4-index.jsp>
- The **Multiple Myeloma Prevention Study** is under way to evaluate use of non-steroidal anti-inflammatory drugs (NSAIDs) for the modulation of biomarkers associated with monoclonal gammopathy of undetermined significance/smoldering myeloma.
- The **Molecular Interactions between Tumor Cells and Bone** initiative is designed to better understand the pathophysiology of bone metastasis for cancers, such as myeloma, that commonly metastasize to bone. <http://grants.nih.gov/grants/guide/rfa-files/RFA-CA-03-013.html>
- A myeloma patterns-of-care study is under way in the **Patterns of Care/Quality of Care Program (POC/QOC)**, an initiative aimed at evaluating and improving the dissemination of recommended



treatment. <http://healthservices.cancer.gov/surveys/poc/>

- The **Mouse Models of Human Cancers Consortium** has developed six models available to the research community to study hematologic malignancies. [http://emice.nci.nih.gov/mouse\\_models/organ\\_models/hema\\_models](http://emice.nci.nih.gov/mouse_models/organ_models/hema_models)
- The **Multiple Myeloma/Other Plasma Cell Neoplasms Home Page** directs visitors to up-to-date information on myeloma treatment, prevention, genetics, causes, and other topics. <http://cancer.gov/CancerInformation/CancerType/plasmacellneoplasm>

## Selected Opportunities for Advancement of Myeloma Research

- Understand the interactions among genetics, immune function, infectious agents, environmental toxins, and lifestyle factors that can lead to myeloma.
- Characterize the molecular features of myeloma cells and their microenvironment, especially genetic and epigenetic features, and use this knowledge to develop and validate molecular targets for prevention and treatment.
- Develop a comprehensive and clinically relevant understanding of normal as well as malignant human hematopoietic stem cells, to devise definitive ways of measuring these cells and to exploit them for testing new therapeutic approaches.
- Develop the required resources to translate “lead” structures and molecules into effective therapeutic agents. Target discovery, validation, and clinical translation of hematological diseases will form important bases for future research.